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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,361	12/20/2001	Dennis A. Lonigro	U0081/7026	9665

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EXAMINER

DOUGHERTY, ANTHONY T

ART UNIT PAPER NUMBER

2863

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,361

Applicant(s)

LONIGRO ET AL.

Examiner

Anthony T. Dougherty

Art Unit

2863

MW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9, 12, 15, 16, 18, 19, 23-26, 28, 33, 39-41 and 43 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10, 11, 13, 14, 17, 20-22, 27, 29-32, 34-38 and 42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 7-9, 12, 15, 16, 18, 19, 23-26, 28, 39-41 and 43 rejected under 35

U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,668,948 to Merkel.

With regard to claims 1, 7, 16, 23, 39, 40 and 41, Merkel discloses detecting a plugged sensor port in a system containing a fluid being monitored (see abstract) by a sensor that senses a fluid variable through a sensor port (see column 3 line 23 through line 27) a controller (see column 3 line 37) for determining a range based on the measured fluid variable beyond which the fluid variable is expected to vary within a predetermined time interval (see column 3 line 39 through line 45 & column 7 line 34 through line 47), measuring the fluid variable (see column 4 line 20 through line 26), indicating a plugged sensor port in response to the measured variable remaining within a range for a predetermined time interval (see column 9 line 36 through column 10 line 2), and actuating a clearing mechanism to clear the plugged port (see column 4 line 65 through line 67).

With regard to claims 2, 8, 24, and 25, and applying the rejections of claims 1, 7, and 23 above, Merkel discloses determining the range based on a measured value of the fluid variable being outside a range (see column 3 line 39 through line 45 & abstract).

Art Unit: 2863

With regard to claims 3, 9, and 26, and applying the rejections of claims 1, 7, and 23 above, Merkel discloses determining the range based on an upper and lower threshold value for the fluid variable (see Figure 11 & column 7 line 34 through line 47).

With regard to claims 12, 19, and 28, and applying the rejection of claims 7, 16, and 23 above, Merkel discloses performing a corrective action to clear the plugged port connection in response to an indication that the port is plugged (see column 4 line 65 through line 67).

With regard to claim 15, and applying the rejection of claim 7 above, Merkel discloses displaying information regarding the port connection to a user (see column 3 line 57 through line 63).

With regard to claims 18, and 43, and applying the rejection of claims 16, and 41 above, Merkel discloses a timer (see column 6 line 55 through line 57), and a comparator that compares the fluid variable to an upper and lower threshold of a range (see column 4 line 20 through line 26).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 33 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,668,948 to Merkel in view of U.S. Patent No. 4,555,712 to Arway et al.

Art Unit: 2863

With regard to claim 33, and applying the rejection of claim 28 above the primary reference to Merkel fails to disclose a means for clearing the plugged port being adding a solvent by actuating a valve.

The secondary reference to Arway et al. discloses actuating a valve to introduce solvent to a system when a flow rate goes below a set point (see column 5 line 57 through line 62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have specified the clearing mechanism of Merkel be adding a solvent by use of a valve.

Accordingly, such a modification would have been obvious since Arway et al. teaches that solvent may be added to a fluid to lower its viscosity (see column 5 line 17 through line 18) and thus improve the fluids ability to flow clearing a plugged port, thereby suggesting the obviousness of the modification.

Allowable Subject Matter

5. Claims 4-6, 10, 11, 13, 14, 17, 20, 21, 22, 27, 29-32, 34-38, and 42 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 4 is the inclusion of the method step of determining the upper and lower threshold values of a range as a percentage of one of an expected operating value, and the measured fluid variable. It is this step found in each of the

Art Unit: 2863

claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 5 is the inclusion of the method step of selecting a predetermined time interval based on characteristics of the process being monitored. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 6, and 11 is the inclusion of the method step of indicating a plugged sensor port in response to the measured fluid variable remaining within a range for at least two consecutive predetermined time intervals. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 10 is the inclusion of the method step of determining the range comprises determining a minimum amount by which the fluid variable is expected to vary above and below a nominal operating range over a selected time interval. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 13 and 34 is the inclusion of the method step of providing information regarding a condition of the port to a remote location. It is this step found in each of the claims, as it is claimed in the combination, that has not been found,

Art Unit: 2863

taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 14 and 35-38 is the inclusion of the method steps being receiving an input from a user, and providing a control signal responsive to user input to program the range or time interval. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 22 and 31 is the inclusion of the limitation of the mechanism that clears the plugged includes a mechanical device movable within the port to clear the port. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 17, 27, and 42 is the inclusion of the limitation of a controller establishing a predetermined time interval based on characteristics of the process being monitored. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 20, 21, and 29 is the inclusion of the limitation of a mechanism that clear a plugged port being a vibrator that vibrates in response to an actuating signal to clear the port. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Art Unit: 2863

The primary reason for the allowance of claim 30 is the inclusion of the limitation of the means for clearing the port comprises a heater that heats the fluid in response to an indication of a plugged port. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 32 is the inclusion of the limitation of the mechanical device is a pinch valve mechanism, a rotatable vane, a rotatable auger, or a butterfly valve. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

International Application Publication Number WO 99/57693 to Zeskind et al. because it teaches detecting a plugged port in a fluid flow system using measured flow ranges to indicate a plug.

U.S. Patent No. 6,339,373 to Zeskind et al. because it teaches the same material as the International Application Publication Number WO 99/57693 to Zeskind et al.

U.S. Patent No. 5,182,938 to Merkel because it teaches detecting a plugged port in a liquid flow system using comparators and timers.

Art Unit: 2863

U.S. Patent No. 4,072,934 to Hiller et al. because it teaches detecting blockages in vapor flow lines by measuring pressure over time and comparing this signal against a preset limit.

U.S. Patent No. 5,995,909 to Bretmersky et al. because it teaches controlling flow rate through a nozzle based on a model of fluid flow updated by measuring fluid flow.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (703) 305-4020. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


atd

November 17, 2003


John Barlow
Supervisory Patent Examiner
Technology Center 2800